

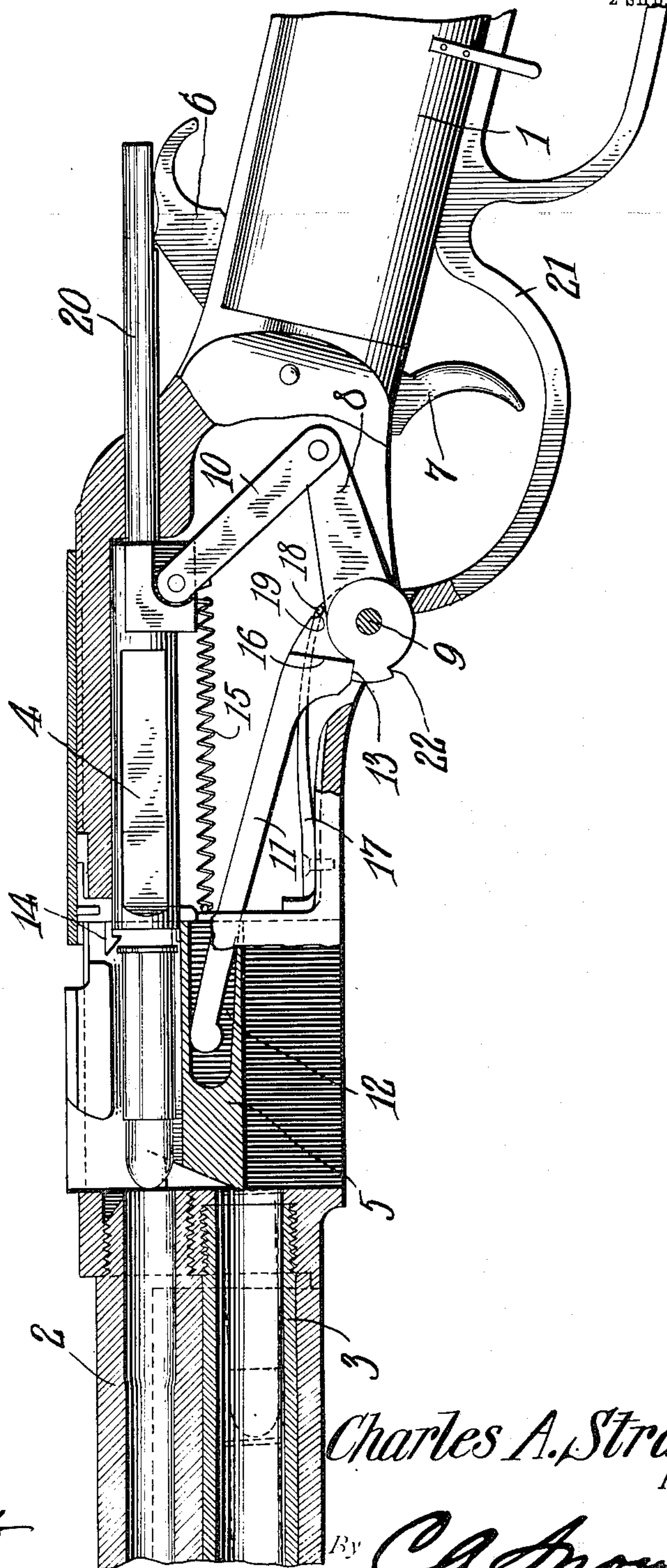
No. 854,771.

PATENTED MAY 28, 1907.

C. A. STRASBURG.
AUTOMATIC FIREARM.
APPLICATION FILED SEPT. 27, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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W. H. Eichten - Clerk

Charles A. Strasburg,
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By *Chas. Snow & Co.*
ATTORNEYS

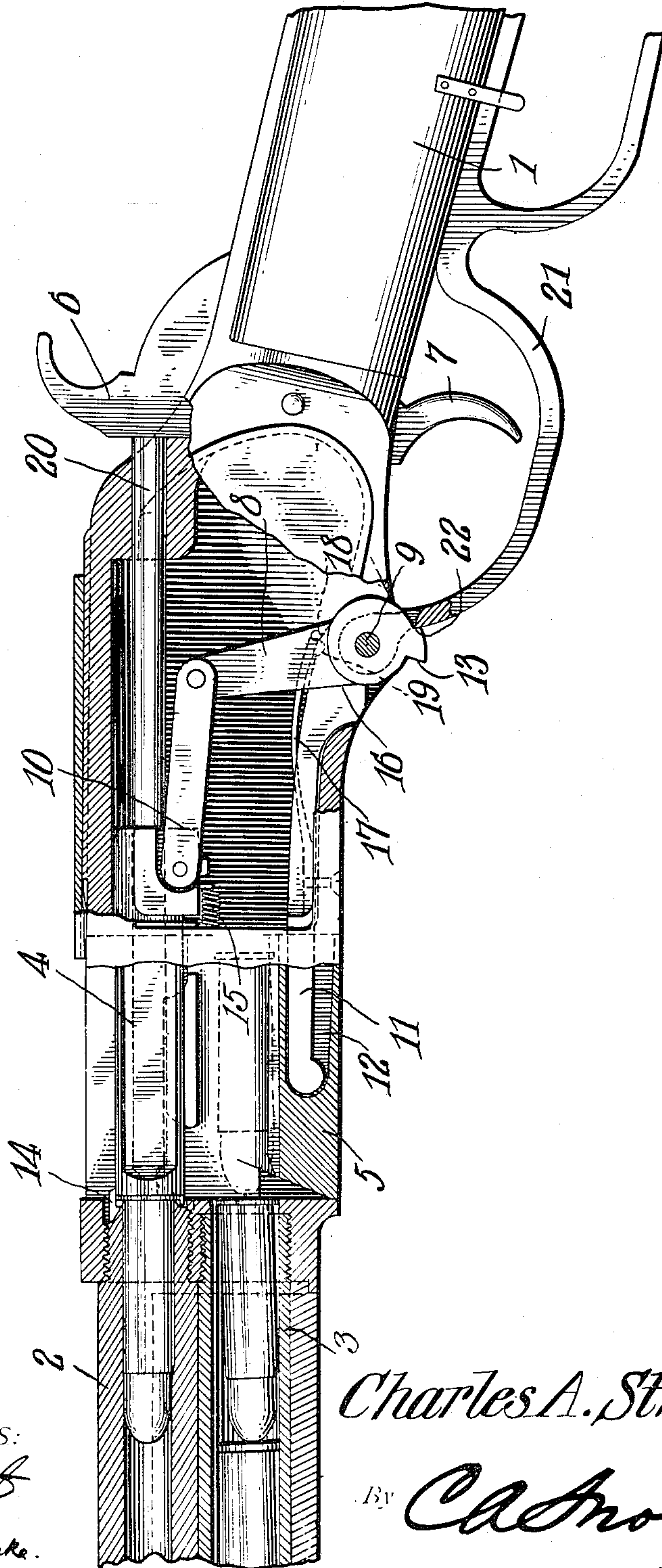
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2 SHEETS—SHEET 2.

Fig. 2



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UNITED STATES PATENT OFFICE

CHARLES ALVIN STRASBURG, OF CRIDERSVILLE, OHIO.

AUTOMATIC FIREARM.

No. 854,771.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed September 27, 1906. Serial No. 336,470.

To all whom it may concern:

Be it known that I, CHARLES ALVIN STRASBURG, a citizen of the United States, residing at Cridersville, in the county of Auglaize and State of Ohio, have invented a new and useful Automatic Firearm, of which the following is a specification.

This invention relates to automatic firearms of that type in which a spring is adapted to be placed under tension by the recoil of the breech block and subsequently to exert its force for closing the breech block after a new cartridge has been supplied to the breech.

The objects of the invention are to improve and simplify the construction of such devices; furthermore, to increase their efficiency in operation and to decrease the expense attending their manufacture.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the accompanying drawings forming part of this specification:—Figure 1 is a vertical section, partly in side elevation, of a firearm equipped with the improvements of the present invention, the action being open; and Fig. 2 is a view similar to Fig. 1, showing the action closed.

Like reference numerals indicate corresponding parts in the different figures of the drawings.

The reference numeral 1 indicates a portion of the stock of a firearm; 2, the barrel; 3, the magazine, which is in the nature of a second barrel and is adapted to contain a number of cartridges in a well-known manner which are thrown rearwardly by means of a spring; 4, the breech block, which is movable toward and away from the breech of the barrel 2; and 5, the carrier, which is adapted to receive a cartridge from the magazine 3 and to elevate the same until it is in line with the barrel 2, at the same time throwing out the empty cartridge which has been withdrawn from the barrel 2 upon the rearward movement of the breech block. The parts thus far described may be of any suitable form

and construction as in the well-known type of Winchester repeating rifle. The hammer 6, together with the trigger 7 for controlling the same, may also be of any suitable form and construction which it is not necessary herein to illustrate in detail.

It is proposed, in carrying out the present invention, that the breech block 4 shall be permitted to be thrown rearwardly by the recoil of the cartridge in the barrel 2 when discharged. For the purpose of utilizing this recoil movement of the breech block 4 to expand a suitable spring which will restore the breech block to its forward position after the carrier 5 has supplied a new cartridge to the barrel 2, it is preferred to employ the following mechanism:

The reference numeral 8 indicates a main lever which is pivotally mounted at 9 in any suitable manner. The main lever 8 is connected by means such as the link 10 with the breech block 4, whereby the recoil movement of the breech block will be communicated through the link 10 to the main lever 8 to rock the same in a rearward direction. For the purpose of utilizing the rearward rocking movement of the main lever 8 to raise the carrier 5 into position to supply a new cartridge to the barrel 2, an auxiliary lever 11 is fulcrumed upon the pivot point 9 of the main lever 8. The free end of the auxiliary lever 11 projects loosely into a socket 12 formed in the rear lower end of the carrier 5. The main lever 8, at its lower end, is formed with a shoulder 13 which, when said main lever has been thrown almost to the limit of its rearward movement by the recoil of the breech block, is adapted to engage the under surface of the auxiliary lever 11, as indicated in Fig. 2, so as to throw the free end of said lever upward in such manner as to raise the carrier 5 from the position illustrated in Fig. 2 to that illustrated in Fig. 1. It will be understood that as the breech block 4 recoils, an extractor 14, carried by said breech block, serves to draw the empty cartridge shell rearwardly until it is disposed above the carrier 5, whereby said carrier in its upward movement strikes the under surface of the empty cartridge and throws it out of the gun, at the same time bringing up a new cartridge which will be pushed into the barrel 2 by the forward movement of the breech block 4.

Having thus set forth the manner in which the recoil consequent upon the explosion of a cartridge is utilized through the breech

block 4, link 10, main lever 8, and auxiliary lever 11 to raise the carrier 5 so as simultaneously to eject the empty shell and to dispose a fresh cartridge directly in line with the barrel 2, the means for automatically throwing the breech block forward so as to push the fresh cartridge into the barrel 2 and for lowering the carrier 5 into position to receive from the magazine 3 a cartridge for the next discharge, will now be described. Suitably connected at its rear end with the breech block 4 is a coil spring 15 which is secured at its forward end in any convenient manner to a stationary part of the firearm. If desired, two coil springs 15 can be employed, one being mounted on each side of the breech block. When the breech block 4 is thrown rearwardly by the recoil so as to rock the main lever 8 and raise the carrier 5 as described, the coil spring 15 is placed under tension, and when the rearward movement of the breech block 4 has been arrested, the coil spring 15 exerts its force to move the breech block 4 in a forward direction so as to force into the barrel 2 the fresh cartridge contained in the carrier 5. When the breech block 4 has almost reached the limit of its forward movement, the main lever 8 moves into contact with a shoulder 16 formed on the auxiliary lever 11 and depresses the forward end of said auxiliary lever so as to lower the carrier 5 into position to receive another cartridge from the magazine 3.

For the purpose of holding the carrier 5 steadily in its raised position during the forward movement of the breech block, or, in other words, to prevent the carrier 5 from descending by gravity into its lowermost position during the time that the breech block 4 is being moved forward by the coil spring 15 and the shoulder 13 of the main lever 8 is consequently out of engagement with the auxiliary lever 11, a flat spring 17 is secured in the gun casing in such manner that its enlarged free end 18 will snap into a notch 19 in the auxiliary lever 11 when said auxiliary lever is in raised position. The engagement of the spring 17 with the notch 19 will hold the carrier 5 in its elevated position until the main lever 8 engages the shoulder 16 under the action of the spring 15 with sufficient force to throw the auxiliary lever 11 and the carrier 5 downward into lowermost position, the spring 17 becoming disengaged from the notch 19 as will be understood.

For the purpose of raising the hammer 6 to cock the firearm upon each recoil movement of the breech block 4, a firing pin 20 is rearwardly extended for a sufficient distance to engage the hammer 6 and raise the same into cocked position during the recoil of the breech block.

The cartridges may be supplied to the magazine 3 in the manner usual in Winchester rifles. In order to avoid any difficulty in

working the cartridge into the barrel 2 when said barrel is empty, it is preferred constantly to maintain a loaded cartridge in the barrel 2. For example, if the magazine 3 be intended to contain ten cartridges, only nine of said cartridges should be fired before supplying more cartridges to the magazine. In this way the discharge of the tenth cartridge which has been automatically fed to the barrel 2 will feed the first cartridge of the new supply of cartridges to the barrel.

In order that the first cartridge from the magazine may be worked by hand into the barrel 2 in the event that it be not desired to maintain a cartridge constantly in said barrel, a hand lever 21 may be loosely fulcrumed upon the pivot point 9 and may be held normally against the lower surface of the stock 1 in any suitable manner as by means of a catch. The hand lever 21, when pushed downward, is adapted to engage a shoulder 22 on the main lever 8 so as to throw said hand lever rearwardly, thus withdrawing the breech block 4 and raising the carrier 5. When the hand lever 21 is again thrown rearwardly and upwardly against the stock, the coil spring 15, which has been placed under tension by the forward and downward movement of the hand lever 21, will restore the breech block 4 and the carrier 5 to their normal positions. It will be obvious that by reason of the fact that the hand lever 21 is loosely pivoted upon the pivot pin 9 and is not rigidly connected with the main lever 8, the operation of the automatic mechanism will not be interfered with in any way by the presence of said hand lever.

The improved firearm of the present invention is strong, simple, durable and inexpensive in construction, as well as thoroughly efficient in operation.

What is claimed is:

1. An automatic fire arm having a stock, a barrel fixed in relation thereto, a magazine disposed longitudinally of and adjacent the barrel, a non-tiltable carrier movable across the end of and designed to receive a cartridge from the magazine, a longitudinally movable recoil operated breech block disposed in alinement with the barrel, an extractor extending from and movable with said block and disposed to draw a shell from the barrel during the recoil, a pivot, a main lever and an auxiliary lever mounted upon said pivot, said auxiliary lever projecting into and loosely engaging the carrier and having shoulders adjacent its pivot, said main lever being disposed to contact with one of the shoulders to lower the auxiliary lever and having a shoulder disposed to bear against the other shoulder of the auxiliary lever to raise said lever, a link connection between the main lever and the breech block, a spring connected to the breech block and disposed to return it to its initial position

subsequent to the recoil, and a holding spring for maintaining the auxiliary lever and the carrier in raised position prior to its actuation by the main lever, said holding spring
5 being disposed to engage a notch within the auxiliary lever.

2. An automatic fire arm comprising a fixed barrel and magazine, a non-tiltable carrier disposed to receive a cartridge from
10 the magazine and convey it to a point in rear of the barrel, a longitudinally movable breech block, an extractor carried thereby, a pivot, a main and an auxiliary lever mounted upon the pivot, said auxiliary lever loosely
15 engaging and disposed to actuate the carrier, a link connection between the main le-

ver and the breech block, a spring connected to the breech block for holding it normally in a predetermined position, means upon the levers for causing the actuation of the aux- 20
iliary lever immediately prior to the completion of either movement of the main lever, and yielding means for locking the auxiliary lever and carrier in raised position prior to its actuation by the main lever. 25

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES ALVIN STRASBURG.

Witnesses:

EMIL KOOP,

CHAS. W. NICHOLS.